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EXAMINER

WU, YICUN

ART UNIT PAPER NUMBER

2165

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,469

Applicant(s)

ABE ET AL.

Examiner

Yicun Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### III. DETAILED ACTION

1. Claims 1-10 are presented for examination.

#### Election by Original Presentation

2. Newly submitted claim 10 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 1-9 and Claims 10 are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, Claims 1-9 has separate utility such as a update temporary memory unit without requiring the/a relational database system parallel with the new target data of Claims 10. See MPEP § 806.05 (d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 10 is withdrawn from

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consideration as being directed to a non-elected invention. See  
37 CFR 1.142(b) and MPEP § 821.03.

Response to Applicant' Remarks

3. Applicant argues:

(1) "The present invention is directed to dividing search-target data into portions, assigning the divided portions of the search target data to search processing apparatuses to execute searches in parallel" (See Remarks page 7).

(2) "Bjornson et al. Partitions both the query sequence to be searched and the database itself into smaller sections. However, the present invention divides the search target data so that the same character string search conditions are searched through each divided portion of the target data... Bjornson et al. requires that each of the subsets of the query sequences be sequentially search through each of the subdatabases". (See Remarks page 8).

(3) "However, neither Bjornson et al. nor Shapira teach or suggest an update temporary memory unit which "temporarily stores new character string records so that searches are not interrupted while the new records are added to the search target data" (See Remarks page 8-9).



**Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated over Akizawa et al., (U. S. Patent No. 5,452,451).

As to Claims 1, 5-9, Akizawa et al. discloses a full text search system, comprising:

a plurality of search processing apparatuses receiving instructions related to locations of search-target character string data and character string search conditions, and outputting search results responsive to the instructions are accordingly (i.e. each of the plurality of symbol strings of interest are divided into at least two partial symbol strings at any position thereof) (col. 5, lines 15-25);

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a search integration unit having search-target character string data is divided into a group of character string records and allocated to one or more of the plurality of search processing apparatuses, correspondingly transmitting given character string search conditions to each of the search processing apparatuses as search instructions, and integrating search results are received from each of the search processing apparatuses and are integrated (col. 5, lines 15-25); and further comprising:

an update temporary memory unit which temporarily storing new character string records to update the search-target character string data (col. 5, lines 15-25); and

an update record search instruction unit transmitting the new character string records stored in the update temporary memory unit to any one of the search processing apparatuses in advance as a part of the search-target character string data (col. 25, lines 62-67).

As to claim 2, Akizawa et al. discloses a full text search system further comprising:

an update result reflection unit in which old records before being updated corresponding to the new records stored in the update temporary memory unit is deleted from the search-



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target character string data, and the new records are incorporated into the search-target character string data (col. 25, lines 62-67).

As to claim 3, Akizawa et al. discloses a full text search system further comprising:

a search result receiving time storing unit in which after the search integration unit transmits search instructions to the plurality of search processing apparatuses, the time when search results are received from each search processing apparatus is stored (col. 25, lines 62-67); and

a breakdown search processing apparatus judgement unit in which the search processing apparatus which cannot receive search results within a preset time from the search result receiving time received first which is stored in the search result receiving time storing unit is judged to be a defective apparatus (col. 25, lines 62-67).

As to claim 4, Akizawa et al. discloses a full text search wherein when the breakdown search processing apparatus judgement unit judges the search processing apparatus to be defective, the search integration unit revokes all the search results transmitted from the plurality of search processing apparatuses,

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and after incorporating the new records stored in the update temporary memory unit into the search-target character string data by instructing the update result reflection unit (col. 5, lines 1-67), the search integration unit divides the search-target character string data and allocates the divided data to usable search processing apparatuses except the search processing apparatuses which are judged to be defective and the search processing apparatuses which have been instructed to execute search processing by the update record search instruction unit, and instructs the usable search processing apparatuses to execute search (col. 25, lines 62-67 and col. 5, lines 1-67).

**Claim Rejections - 35 USC § 103**

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson et al. (U.S. Patent 6,691,109) in view of Shapira (U.S. Patent 6,738,779).

As to Claim 1, 5-8, Bjornson et al. discloses a full text search system, comprising:

a plurality of search processing apparatuses receiving instructions related to locations of search-target string data and character string search conditions are instructed (col. 3, lines 60-67), and outputting search results responsive to the instructions are accordingly (col. 4, lines 1-9); and

a search integration unit having search-target string data is divided into a group of string records and allocated to one

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or more of the plurality of search processing apparatuses (col. 3, lines 60-67),

correspondingly transmitting character string search conditions to each of the search processing apparatuses as search instructions (col. 3, lines 60-67), and

integrating search results are received from each of the search processing apparatuses and (col. 4, lines 1-9); and further comprising:

an update temporary memory unit temporarily storing new records to update the search-target string data (col. 4, lines 12-29); and

an update record search instruction unit transmitting the new string records stored in the update temporary memory unit to any one of the search processing apparatuses in advance as a part of the search-target string data (col. 4, lines 12-29 and fig. 5).

Bjornson et al. does not explicitly teach character string.

Shapira teaches character string (i.e. character stream. col. 2, line 25).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bjornson et al. with character string.

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bjornson et al. by the teaching of Shapira because providing character string allows an effective and computationally efficient mechanism as taught Shapira (col. 1, lines 61-64).

As to Claim 2, Bjornson et al. as modified teaches a full text search system further comprising:

an update result reflection unit in which old records before being updated corresponding to the new records stored in the update temporary memory unit is deleted from the search-target character string data (Bjornson et al. col. 4, lines 12-29 and fig. 5), and

the new records are incorporated into the search-target character string data (Bjornson et al. col. 4, lines 12-29 and fig. 5).

As to claim 3, Bjornson et al. as modified teaches a full text search system further comprising:

a search result receiving time storing unit in which after the search integration unit transmits search instructions to the plurality of search processing apparatuses (Bjornson et al. col.

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4, lines 12-29 and fig. 5), the time when search results are received from each search processing apparatus is stored (Bjornson et al. col. 4, lines 12-29 and fig. 5); and

a breakdown search processing apparatus judgement unit in which the search processing apparatus which cannot receive search results within a preset time from the search result receiving time received first which is stored in the search result receiving time storing unit is judged to be a defective apparatus (Bjornson et al. col. 4, lines 12-29 and fig. 5).

As to claim 4, Bjornson et al. as modified teaches a full text search wherein

when the breakdown search processing apparatus judgement unit judges the search processing apparatus to be defective (Bjornson et al. col. 14, lines 35-40 and fig. 1 and 5),

the search integration unit revokes all the search results transmitted from the plurality of search processing apparatuses (Bjornson et al. col. 14, lines 35-40 and fig. 1 and 5), and

after incorporating the new records stored in the update temporary memory unit into the search-target character string data by instructing the update result reflection unit (Bjornson et al. col. 14, lines 35-40 and fig. 1 and 5),

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the search integration unit divides the search-target character string data (i.e. character stream. Shapira col. 2, line 25) and allocates the divided data (Bjornson et al. col. 4, lines 12-29 and fig. 5) to usable search processing apparatuses except the search processing apparatuses which are judged to be defective and the search processing apparatuses which have been instructed to execute search processing by the update record search instruction unit (Bjornson et al. col. 14, lines 35-40 and fig. 1 and 5), and

instructs the usable search processing apparatuses to execute search (Bjornson et al. col. 14, lines 35-40 and fig. 1 and 5).

As to claim 9, Bjornson et al. as modified teaches a full text search method wherein

receiving a plurality of search requests (Bjornson et al. col. 4, lines 12-29 and fig. 5) from terminals requesting to search target data having character strings (i.e. character stream. Shapira col. 2, line 25);

executing the plurality of search requests from the terminals in parallel via a plurality of search processing

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apparatuses (Bjornson et al. col. 4, lines 12-29 and fig. 5);  
and

automatically adding new data to the target data based on  
at least one request from at least one of the terminals while  
the plurality of search requests are processed (Bjornson et al.  
col. 4, lines 12-29 and fig. 5),

wherein the target data is logically divided into regions  
to correspond to the plurality of search processing apparatuses  
and the regions are allocated to the plurality of search  
processing apparatuses for executing searches based on the  
plurality of search requests (Bjornson et al. col. 4, lines 12-  
29 and fig. 5).



**Conclusion**

9. **THIS ACTION IS MADE FINAL**, Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory- period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action.

In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply-expire later than SIX MONTHS from the mailing date of this final action.

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Points of contact

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu  
Patent Examiner  
Technology Center 2100

  
JEFFREY GAFFIN  
SUPERVISORY PATENT EXAMINER  
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August 16, 2005